SHARE POOLS FOR SHARING FILES VIA A STORAGE SERVICE

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims the benefit of U.S. Provisional Application No. 62/648,364 entitled "SHARE POOLS FOR SHARING FILES VIA A STORAGE SERVICE," filed Mar. 26, 2018, the content of which is incorporated herein by reference in its entirety for all purposes.

FIELD

[0002] The described embodiments relate generally to a software framework configured to implement various techniques in a classroom setting. More particularly, the present embodiments relate to sharing documents between instructors and students in a classroom setting.

BACKGROUND

[0003] Ever since the invention of audio visual (AV) devices such as televisions, projection systems, and tape decks, school districts and instructors have been incorporating materials into their lesson plans that utilize these devices to provide information to students in new and engaging ways. Instructors were not merely limited to textbooks, lectures, and written assignments. With the advent of the information age, the Internet has opened new horizons in the classroom. Instructors can now draw from a nearly unlimited resource of information in order to create interactive lesson plans that are engaging and productive.

[0004] However, the tools available to instructors when developing these lesson plans are limited. For example, a Wikipedia® article may provide useful background material on a particular subject. Nevertheless, the instructor may not have a good option to share the article with their students. The instructor could print out the article on paper hand-outs, which was the traditional way to distribute such materials to students. However, this method is wasteful and loses some of the interactive elements (e.g., animations, hyperlinks, etc.) of the article as presented online. Alternatively, the instructor could email a hyperlink for the article to each of their students to view on a computing device at home or provided by the school. While such methods allow the students to view the article within the proper context to interact with the interactive elements embedded within the article, there is no way for the instructor to track whether each student clicked on the hyperlink or even whether each student actually read through the entire article.

SUMMARY

[0005] This paper describes various embodiments that relate to a client-server architecture that enables the sharing of documents between an instructor and students. A hand-out can include attachments that specify placeholders for hand-ins and/or activities to be performed by the student as part of the assignment. The hand-out can specify documents that an instructor shares with the students in a class. A set of services facilitates the sharing of the documents between different client devices.

[0006] In some embodiments, a share pool is generated in a partition of a storage service accessible via a network. The share pool includes stub files created as placeholders to create clones of a file to be shared via the storage service. In response to a request to generate a number of clones of a shared file, a number of stub files can be removed from the share pool. The stub files can be moved to a different location within the storage service, a file name for the stub files can be changed, and data from a shared file can be copied into the stub files. The clones of the shared file are then shared with a number of users of the storage service.

[0007] In some embodiments, each stub file is a copy of a seed file that does not include any content related to the shared file. The stub file is a placeholder within the hierarchy of directories or folders within a file system. In some embodiments, the partition of the storage service is allocated to an instructor for a class. Each clone of the shared file is associated with an identifier for a particular student enrolled in the class.

[0008] In some embodiments, the share pool is replenished with a number of additional stub files in response to the number of stub files being removed from the share pool. The replenishing can be managed by a pool service executed by a server device.

[0009] In some embodiments, creating the number of clones of the file from the number of stub files includes, for each stub file in the number of stub files: moving the stub file from a first location in the partition of the storage service to a second location in the partition of the storage service, changing the file name for the stub file, and copying content related to the file into the stub file to create the clone of the file from the stub file. The first location can be a hidden folder in the partition and the second location can be a folder associated with a hand-out for a class.

[0010] In some embodiment, the storage service implements a document application programming interface for performing file operations on files in the partition of the storage service. The storage service can also implement a share application programming interface for granting access to the files in the partition of the storage service to other users of the storage service.

[0011] In some embodiments, at least one non-transitory computer readable storage medium is disclosed that is configured to store instructions. The instructions, in response to being executed by at least one processor included in a server device, cause the server device to share files with a plurality of users. The server device generates a share pool including one or more stub files stored in a storage service; receives a request to generate a number of clones of a shared file stored in the storage service; allocates a number of stub files from the share pool to create clones of the shared file; and provides, through the storage service, access to the clones of the shared file to the plurality of users.

[0012] In some embodiments, the storage service is divided into a number of partitions having different scope. The share pool is stored in a first partition having a scope associated with an instructor for a class, and each clone of the shared file is associated with an identifier for a student enrolled in the class.

[0013] In some embodiments, the share pool is replenished with a number of additional stub files to ensure that the number of stub files in the share pool is greater than a pre-defined threshold value. In some embodiments, the pre-defined threshold value is based on a multiple of an average number of students enrolled in classes offered by a school district.

[0014] In some embodiments, a system is disclosed for sharing files among a plurality of users. The system includes